

What Is Claimed Is:

1. An isolated nucleic acid molecule comprising a polynucleotide having a nucleotide sequence at least 95% identical to a sequence selected from the group consisting of:

5 (a) a nucleotide sequence encoding a polypeptide comprising amino acids from about -17 to about 339 in SEQ ID NO:2;

(b) a nucleotide sequence encoding a polypeptide comprising amino acids from about -16 to about 339 in SEQ ID NO:2;

10 (c) a nucleotide sequence encoding a polypeptide comprising amino acids from about 1 to about 339 in SEQ ID NO:2;

(d) a nucleotide sequence encoding a polypeptide having the amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 97666;

15 (e) a nucleotide sequence encoding the mature IL-1R AcM polypeptide having the amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 97666; and

(f) a nucleotide sequence complementary to any of the nucleotide sequences in (a), (b), (c), (d) or (e).

20 2. An isolated nucleic acid molecule comprising a polynucleotide which hybridizes under stringent hybridization conditions to a polynucleotide having a nucleotide sequence identical to a nucleotide sequence in (a), (b), (c), (d) or (e) of claim 1 wherein said polynucleotide which hybridizes does not hybridize under stringent hybridization conditions to a polynucleotide having a nucleotide sequence consisting of only A residues or of only T residues.

25 3. An isolated nucleic acid molecule comprising a polynucleotide which encodes the amino acid sequence of an epitope-bearing portion of a IL-1R

AcM polypeptide having an amino acid sequence in (a), (b), (c), (d), or (e) of claim 1.

4. The isolated nucleic acid molecule of claim 3, which encodes an epitope-bearing portion of a IL-1R AcM polypeptide selected from the group consisting of: a polypeptide comprising amino acid residues from about 6 to about 15 in SEQ ID NO:2; a polypeptide comprising amino acid residues from about 57 to about 66 in SEQ ID NO:2; a polypeptide comprising amino acid residues from about 70 to about 79 in SEQ ID NO:2; a polypeptide comprising amino acid residues from about 106 to about 112 in SEQ ID NO:2; a polypeptide comprising amino acid residues from about 115 to about 124 in SEQ ID NO:2; and a polypeptide comprising amino acid residues from about 129 to about 135 in SEQ ID NO:2.

5. An isolated nucleic acid molecule, comprising a polynucleotide having a sequence selected from the group consisting of the nucleotide sequence of a fragment of the sequence shown in SEQ ID NO:1 or the complement thereof, wherein said fragment comprises at least 50 contiguous nucleotides of SEQ ID NO:1, provided that said fragment does not have a sequence starting:

at nucleotide 1 and ending at nucleotide 60 of SEQ ID NO:1 or any subfragment thereof or the complement thereof;

at nucleotide 139 and ending at nucleotide 214 of SEQ ID NO:1 or any subfragment thereof or the complement thereof;

at nucleotide 298 and ending at nucleotide 366 of SEQ ID NO:1 or any subfragment thereof or the complement thereof;

at nucleotide 839 and ending at nucleotide 1632 of SEQ ID NO:1 or any subfragment thereof or the complement thereof; or

at nucleotide 1922 and ending at nucleotide 2137 of SEQ ID NO:1, or any subfragment thereof or the complement thereof.

6. A method for making a recombinant vector comprising inserting an isolated nucleic acid molecule of claim 20 into a vector.

7. A recombinant vector produced by the method of claim 6.

8. A method of making a recombinant host cell comprising introducing the recombinant vector of claim 7 into a host cell.

9. A recombinant host cell produced by the method of claim 8.

10. A recombinant method for producing a IL-1R AcM polypeptide, comprising culturing the recombinant host cell of claim 9 under conditions such that said polypeptide is expressed and recovering said polypeptide.

11. An isolated IL-1R AcM polypeptide having an amino acid sequence at least 95% identical to a sequence selected from the group consisting of:

(a) amino acids from about -17 to about 339 in SEQ ID NO:2;
(b) amino acids from about -16 to about 339 in SEQ ID NO:2;
(c) amino acids from about 1 to about 339 in SEQ ID NO:2;
(d) the amino acid sequence of the IL-1R AcM polypeptide having the amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 97666;

(e) the amino acid sequence of the mature IL-1R AcM polypeptide having the amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 97666; and

(f) the amino acid sequence of an epitope-bearing portion of any one of the polypeptides of (a), (b), (c), (d) or (e).

12. An isolated polypeptide comprising an epitope-bearing portion of the IL-1R AcM protein, wherein said portion is selected from the group

consisting of: a polypeptide comprising amino acid residues from about 6 to about 15 in SEQ ID NO:2; a polypeptide comprising amino acid residues from about 57 to about 66 in SEQ ID NO:2; a polypeptide comprising amino acid residues from about 70 to about 79 in SEQ ID NO:2; a polypeptide comprising amino acid residues from about 106 to about 112 in SEQ ID NO:2; a polypeptide comprising amino acid residues from about 115 to about 124 in SEQ ID NO:2; and a polypeptide comprising amino acid residues from about 129 to about 135 in SEQ ID NO:2.

13. The isolated polypeptide of claim 11, which is produced or contained in a recombinant host cell.

14. The isolated polypeptide of claim 11, wherein said recombinant host cell is mammalian.

15. An isolated antibody that binds specifically to an IL-1R AcM polypeptide of claim 11.

16. An isolated nucleic acid molecule comprising a polynucleotide encoding an IL-1R AcM polypeptide wherein, except for at least one to fifty conservative amino acid substitutions, said polypeptide has a sequence selected from the group consisting of:

- (a) a nucleotide sequence encoding a polypeptide comprising amino acids from about -17 to about 339 in SEQ ID NO:2;
- (b) a nucleotide sequence encoding a polypeptide comprising amino acids from about -16 to about 339 in SEQ ID NO:2;
- (c) a nucleotide sequence encoding a polypeptide comprising amino acids from about 1 to about 339 in SEQ ID NO:2;
- (d) a nucleotide sequence encoding a polypeptide having the amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 97666;

(e) a nucleotide sequence encoding the mature IL-1R AcM polypeptide having the amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 97666; and

(f) a nucleotide sequence complementary to any of the nucleotide sequences in (a), (b), (c), (d) or (e).

17. An isolated IL-1R AcM polypeptide wherein, except for at least one to fifty conservative amino acid substitutions, said polypeptide has a sequence selected from the group consisting of:

- (a) amino acids from about -17 to about 339 in SEQ ID NO:2;
- (b) amino acids from about -16 to about 339 in SEQ ID NO:2;
- (c) amino acids from about 1 to about 339 in SEQ ID NO:2;
- (d) the amino acid sequence of the IL-1R AcM polypeptide

having the amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 97666;

(e) the amino acid sequence of the mature IL-1R AcM polypeptide having the amino acid sequence encoded by the cDNA clone contained in ATCC Deposit No. 97666; and

(f) the amino acid sequence of an epitope-bearing portion of any one of the polypeptides of (a), (b), (c), (d) or (e).

18. A method for identifying a type I IL-1 receptor agonist, comprising:

(a) providing a host cell containing recombinant genes which express a polypeptide comprising a type I IL-1 receptor and a polypeptide comprising the polypeptide of claim 16, wherein said type I IL-1R and the polypeptide of claim 16 form a complex;

(b) administering a candidate agonist to said cell; and

(c) determining the binding affinity of said complex for said candidate agonist relative to the binding affinity of said complex for IL-1.

19. A method for identifying a type I IL-1 receptor antagonist comprising:

5 (a) providing a host cell containing recombinant genes which express a polypeptide comprising a type I IL-1 receptor and a polypeptide comprising the polypeptide of claim 16, wherein said type I IL-1R and the polypeptide of claim 16 form a complex;

(b) administering a candidate antagonist to said cell; and

10 (c) determining the whether said candidate agonist disrupts or prevents formation of a complex between type I IL-1R and the polypeptide of claim 16.

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